

CITY OF TUCSON CONTRACT NO. 0098-96

A. G. Contract No. KR95 2575TRN
ADOT ECS File: JPA 95-203
Project: P9607AQP - P9612AQP
Section: FY96 Air Quality
Demonstration Projects

INTERGOVERNMENTAL AGREEMENT

BETWEEN

THE STATE OF ARIZONA

AND

THE CITY OF TUCSON

THIS AGREEMENT is entered into 9 February, 1995, pursuant to Arizona Revised Statutes Section 11-952 through 11-954 as amended, between the STATE OF ARIZONA, acting by and through its DEPARTMENT OF TRANSPORTATION (the "State") and the CITY OF TUCSON, acting by and through its MAYOR and CITY COUNCIL (the "City").

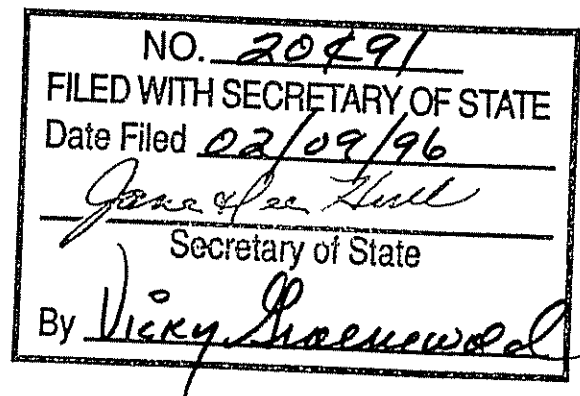
I. RECITALS

1. The State is empowered by Arizona Revised Statutes Section 28-108 and 28-2611 to enter into this agreement and has by resolution, a copy of which is attached hereto and made a part hereof, resolved to enter into this agreement and has delegated to the undersigned the authority to execute this agreement on behalf of the State.

2. The City is empowered by Arizona Revised Statutes Section 48-572 to enter into this agreement and has by resolution, a copy of which is attached hereto and made a part hereof, resolved to enter into this agreement and has authorized the undersigned to execute this agreement on behalf of the City.

3. The ADOT and City have direct responsibilities with respect to Transit Planning and Operations in the metropolitan areas of the state, such as the geographical area comprised of the City and portions of Pima County. The State and the City desire to accomplish the FY96 Air Quality Demonstration Projects as defined in the project workscopes contained in Attachments A through F.

THEREFORE, in consideration of the mutual agreements expressed herein, it is agreed as follows:



II. SCOPE

1. The State will:

a. On a reimbursable basis, provide City FY96 State funding of up to \$177,500.00 for work performed in accordance with Attachments A through F, with are attached hereto and made a part hereof.

b. Review and approve progress of the work and retain the option to approve subcontracts.

2. The City will:

a. Perform work in accordance with Attachments A through F. Comply with all applicable State and local laws. Comply with the State's accounting and record keeping procedures. Cooperate with the State to accomplish the goals of Chapter 365, Laws of 1987.

b. Permit authorized State personnel to inspect and review work on the projects at reasonable times and places. Provide the State statistics on pollution reduction using the formula in Attachment F.

c. Invoice the State, in the form of Exhibit 1, by project number per workscope, supported by narrative reports, in a total amount not to exceed \$177,500.00. Acknowledge the State ADOT as the funding source in all promotional materials, newsletters and press releases.

III. MISCELLANEOUS PROVISIONS

1. This agreement shall remain in force and effect until completion of said activities and reimbursements; provided, however, that this agreement may be cancelled at any time prior to the commencement of performance, upon thirty (30) days written notice to the other party.

2. Should the work contemplated under this agreement be completed at a lower cost than the reimbursed amount, or for any other reason should any of these funds not be expended, a proportionate amount of the funds provided shall be reimbursed to the State.

3. This agreement shall become effective upon filing with the Secretary of State.

5. This agreement may be cancelled in accordance with Arizona Revised Statutes Section 38-511.

6. The provisions of Arizona Revised Statutes Section 35-214 are applicable to this contract.

7. In the event of any controversy which may arise out of this agreement, the parties hereto agree to abide by required arbitration as is set forth in Arizona Revised Statutes Section 12-1518.

8. All notices or demands upon any party relating to this agreement shall be in writing and shall be delivered in person or sent by mail addressed as follows:


Arizona Department of Transportation
Joint Project Administration
205 South 17 Avenue, Mail Drop 616E
Phoenix, AZ 85007

City of Tucson
City Manager
PO Box 27210
Tucson, AZ 85726-7210

9. Attached hereto and incorporated herein is the written determination of legal counsel that the parties are authorized under the laws of this State to enter into this agreement and that the agreement is in proper form.

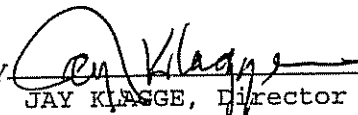
IN WITNESS WHEREOF, the parties have executed this agreement the day and year first above written.

CITY OF TUCSON

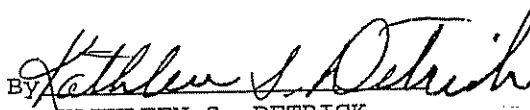
By 
Steve Leal
Vice Mayor

STATE OF ARIZONA

Department of Transportation

By 
JAY KRASGE, Director
Transportation Planning


ATTEST

By 
KATHLEEN S. DETRICK
City Clerk

RESOLUTION

BE IT RESOLVED on this 9th day of November 1995, that I, the undersigned LARRY S. BONINE, as Director of the Arizona Department of Transportation, have determined that it is in the best interests of the State of Arizona that the Department of Transportation, acting by and through the Highways Division, to enter into an agreement with the City of Tucson for the purpose of defining responsibilities to accomplish the FY96 Qir Quality Demonstration projects.

Therefore, authorization is hereby granted to draft said agreements which, upon completion, shall be submitted to the Transportation Planning Director for approval and execution.


for LARRY S. BONINE
Director

ADOPTED BY THE
MAYOR AND COUNCIL
JAN 22 1996

RESOLUTION NO. 17158

RELATING TO INTERGOVERNMENTAL AGREEMENTS; APPROVING AND
AUTHORIZING EXECUTION OF AN INTERGOVERNMENTAL AGREEMENT WITH
THE ARIZONA DEPARTMENT OF TRANSPORTATION FOR FUNDING MASS
TRANSIT AIR QUALITY DEMONSTRATION PROJECTS.

BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE
CITY OF TUCSON, ARIZONA, AS FOLLOWS:

SECTION 1. The Intergovernmental Agreement with
the Arizona Department of Transportation for funding mass
transit air quality demonstration projects, attached hereto,
is approved.

SECTION 2. The Mayor is hereby authorized and
directed to execute the said Intergovernmental Agreement for
and on behalf of the City of Tucson and the City Clerk is
directed to attest the same.

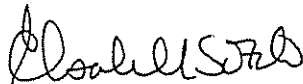
SECTION 3. The various City officers and
employees are authorized and directed to perform all acts
necessary or desirable to give effect to this resolution.

SECTION 4. WHEREAS, it is necessary for the
preservation of the peace, health and safety of the City of
Tucson that this resolution become immediately effective, an
emergency is hereby declared to exist and this resolution
shall be effective immediately upon its passage and
adoption.

APPROVAL OF THE TUCSON CITY ATTORNEY

I have reviewed the above referenced proposed intergovernmental agreement, between the DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION, and the CITY OF TUCSON and declare this agreement to be in proper form and within the powers and authority granted to the City under the laws of the State of Arizona.

DATED this 8 day of JAN, 1996



City Attorney

PROJECT WORKSCOPEInternet Homepage Information Exchange (PAG)

By establishing access to alternate mode information such as RideShare, the Travel Reduction Program, bicycle buddies, or SunTran through the Internet, users across jurisdictional boundaries will learn about these programs. Furthermore, users will be able to fill out and submit carpool applications on-line from their home or office computer.

This project offers an opportunity to reach a new and growing segment of the community--those persons who use computers to communicate, to carry out research and to collect information. The populations of potential transit riders at the University of Arizona, Pima Community College, major medical facilities and large employers will be reached through this computer link. By providing the region with this innovative method of outreach it will encourage the non-transit dependent to consider alternate modes of transportation. This project provides an additional method of educating the public.

One of the most important aspects of improving air quality is public education. This project targets an audience not typically reached by traditional means. Internet access for business and personal use is growing rapidly. Providing information through the Internet will allow a greater dissemination of air quality information and alternatives to single occupancy vehicle use. For example, information will be provided on:

- ◇ Pollutant levels
- ◇ Health effects
- ◇ General air quality
- ◇ Pollutant specific facts, and
- ◇ Benefits of alternate mode use

Required products and associated deadlines are identified in the Work Plan included as Attachment A-2.

ATTACHMENT A-2

WORK PLAN AND PROJECT BUDGET

Internet Homepage Information Exchange (PAG)

October 1, 1995

Implementation of project

February 1, 1996

Submittal of progress report and billing to ADOT Transit Branch Manager. Progress reports will describe monthly homepage access calls, on-line survey results and new car pool applications. Survey results will provide information on the number of home page users who have switched to alternate modes of transportation.

June 1, 1996

Progress report/billing

September 30, 1996

Submittal to ADOT within 30 days final progress report and billing. The final report will have a format explained in Attachment A-3.

Funding Sources by Source/Amount

ADOT Air Quality Fund

\$30,000

Total units of service proposed during demonstration period:

500 per month x 12 months = 6000 units of service

Total project cost per unit of service:

\$5.00

ADOTs cost per unit of service

\$5.00

ATTACHMENT A-3

-FINAL PROGRESS REPORT FORMAT-

- A. Summary of activities of demonstration project.
- B. Monthly reductions in SOVs (single occupant vehicles) resulting from the project with corresponding reduction in vehicle miles.
- C. Monthly reductions in pollutants (Pollution Calculation Formula attached) resulting from the project.
- D. Projected monthly reductions in SOVs and vehicle miles for one year following project.
- E. Projected monthly reductions in pollutants for one year following the project.
- F. Ridership data including groups of people served by the project, employers, geographic area and activity centers.
- G. Self-sufficiency potential for local commitment following project.
- H. Assessment of success or failure of the project.

APPENDICES

Any photographs, maps, brochures, and related supportive documentation would be welcome and desirable.

ATTACHMENT A-4

POLLUTION CALCULATION FORMULA

The method to compute the pollution reduction includes the following steps:

First, calculate the number of fewer cars on the road resulting from this project. The formula to arrive at this figure is to divide the projected ridership (bus, car/vanpool) by the Average Vehicle Occupancy (AVO).*

$$\text{Number of Fewer Cars} = \text{Project Ridership} \div \text{by AVO}$$

Secondly, calculate the number of miles not driven due to the project. This is done by multiplying the number of fewer cars by the average distance of each type of trip (bus, car/vanpool).**

$$\text{Number of miles not driven} = (\text{No. of fewer cars}) \times (\text{Average trip length - bus, car/vanpool})$$

Thirdly, calculate the reduction in carbon monoxide, nitrogen oxides and hydrocarbons. This is done by multiplying the number of miles not driven by emissions of the pollutant per mile which are:***

Carbon Monoxide (CO):	11 gms/mile
Nitrogen Oxide (NOX):	2.22 gms/mile
Hydrocarbons (NMHC)	3.00 gms/mile

$$\text{Reduction of pollutant} = (\text{No. of miles not driven}) \times \text{Emissions of pollutant per mile}$$

The unit of measurement for the above pollution reduction is in grams. To convert grams into pounds, divide the reduction in grams by 453.59; to convert into tons, divide the reduction in pounds by 2000.

NOTES

- * The Average Vehicle Occupancy (AVO) will vary according to locality.
- ** The average distance for each bus trip will vary depending on type of bus, service and locality. The average length of trip for car/vanpool will vary according to locality.
- *** Source: Arizona Department of Environmental Quality

PROJECT WORKSCOPE

Shuttle Service to Park Events (City of Tucson)

This project will provide shuttle services to large concerts and other events held in the city parks. It is an expansion and consolidation of already existing services provided by the Tucson Parks and Recreation Department. Specific event audiences will be targeted and transportation services will be provided to those parts of the Tucson metropolitan area that have significant concentrations of those audiences. These services will consist of a mixture of buses, passenger vans, and handi-vans running in regular shuttles connecting the park hosting the event, with regional shopping centers, Park and Ride lots, transit centers, local parks, and neighborhood centers. This will reduce air pollution and traffic congestion caused by audiences traveling to and from events and searching for parking spaces. These services will provide an opportunity for members of the public who cannot attend concerts in the parks due to lack of adequate public transport to enjoy special events in their public parks.

Required products and associated deadlines are identified in the Work Plan included as Attachment B-2.

ATTACHMENT B-2

WORK PLAN AND PROJECT BUDGET

Shuttle Service to Park Events (City of Tucson)

October 1, 1995	Start of service
February 1, 1996	Submittal of progress report and billing to ADOT Transit Branch Manager. Progress reports will describe numbers and type of vehicles provided per event, percent of ridership per event, costs per operating mile, reduction in pollutants, and vehicular traffic directly related to the operation of this service.
June 1, 1996	Progress report/billing
September 30, 1996	Submittal to ADOT within 30 days final progress report and billing. The final report will have a format explained in Attachment B-3.

Funding Sources by Source/Amount

ADOT Air Quality Fund	\$9,500
City of Tucson	4,500
Total of above sources	\$14,000

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Total units of service proposed during this demonstration project	865
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Total cost per unit of service:	\$11.56
ADOTs cost per unit of service	\$6.36

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ATTACHMENT B-3

-FINAL PROGRESS REPORT FORMAT-

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- D. Projected monthly reductions in SOVs and vehicle miles for one year following project.
- E. Projected monthly reductions in pollutants for one year following the project.
- F. Ridership data including groups of people served by the project, employers, geographic area and activity centers.
- G. Self-sufficiency potential for local commitment following project.
- H. Assessment of success or failure of the project.

APPENDICES

Any photographs, maps, brochures, and related supportive documentation would be welcome and desirable.

ATTACHMENT B-4

POLLUTION CALCULATION FORMULA

The method to compute the pollution reduction includes the following steps:

First, calculate the number of fewer cars on the road resulting from this project. The formula to arrive at this figure is to divide the projected ridership (bus, car/vanpool) by the Average Vehicle Occupancy (AVO).*

$$\text{Number of Fewer Cars} = \text{Project Ridership} \div \text{by AVO}$$

Secondly, calculate the number of miles not driven due to the project. This is done by multiplying the number of fewer cars by the average distance of each type of trip (bus, car/vanpool).**

$$\text{Number of miles not driven} = (\text{No. of fewer cars}) \times (\text{Average trip length} - \text{bus, car/vanpool})$$

Thirdly, calculate the reduction in carbon monoxide, nitrogen oxides and hydrocarbons. This is done by multiplying the number of miles not driven by emissions of the pollutant per mile which are:***

Carbon Monoxide (CO):	11 gms/mile
Nitrogen Oxide (NOX):	2.22 gms/mile
Hydrocarbons (NMHC)	3.00 gms/mile

$$\text{Reduction of pollutant} = (\text{No. of miles not driven}) \times \text{Emissions of pollutant per mile}$$

The unit of measurement for the above pollution reduction is in grams. To convert grams into pounds, divide the reduction in grams by 453.59; to convert into tons, divide the reduction in pounds by 2000.

NOTES

- * The Average Vehicle Occupancy (AVO) will vary according to locality.
- ** The average distance for each bus trip will vary depending on type of bus, service and locality. The average length of trip for car/vanpool will vary according to locality.
- *** Source: Arizona Department of Environmental Quality

PROJECT WORKSCOPE**Enhanced Bus Shelters (Town of Marana)**

The purpose of this project is to entice additional discretionary riders along current transit routes in Town of Marana by the construction of two enhanced bus shelters. The two locations currently offer an unprotected bench and minimal signage. Such shelters would aesthetically upgrade the bus stop appearance and also provide shelter against weather conditions. These units can also provide detailed transit schedule information, instead of the current route signs that offer no scheduling information.

The proposed locations would be the intersection of Ina and Oldfather Roads. This area is serviced by two transit systems, the Pony Express (Section 18 rural transit service) and the SunTran system of the City of Tucson. The SunTran services are two express routes. In addition, SunTran's Route 16 is a block to the east of the Oldfather/Ina intersection and a transfer can be obtained to take this route. The shelters are proposed to be built on both the north and south sides of Ina Road in a highly visible corridor.

These shelters are proposed to be of straw bale construction on a permanent foundation, in an "Old Pueblo" design, an innovative and cost effective approach in construction as well as an aesthetic improvement.

Required products and associated deadlines are identified in the Work Plan included as Attachment C-2.

ATTACHMENT C-2

WORK PLAN AND PROJECT BUDGET

Enhanced Bus Shelters (Town of Marana)

October 1, 1995	Implementation of project
February 1, 1996	<p>Submittal of progress report and billing to ADOT Transit Branch Manager. Progress reports will describe milestones of shelter construction that have been met. Upon completion of the shelters, patronage at the shelters will be measured and reported. Comparison of before and after patronage will be used to determine air quality benefit reduction of pollutants, and vehicular miles traveled.</p>
June 1, 1996	Progress report/billing
September 30, 1996	<p>Submittal to ADOT within 30 days final progress report and billing. The final report will have a format explained in Attachment C-3.</p>

Funding Sources by Source/Amount

ADOT Air Quality Fund	\$10,000
Town of Marana	600
PCDEQ Clean Air Program	1,000
TOTAL	\$11,600
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Total project cost per unit of service:	\$4,800
ADOTs cost per unit of service:	\$4,000
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ATTACHMENT C-3

-FINAL PROGRESS REPORT FORMAT-

- A. Summary of activities of demonstration project.
- B. Monthly reductions in SOVs (single occupant vehicles) resulting from the project with corresponding reduction in vehicle miles.
- C. Monthly reductions in pollutants (Pollution Calculation Formula attached) resulting from the project.
- D. Projected monthly reductions in SOVs and vehicle miles for one year following project.
- E. Projected monthly reductions in pollutants for one year following the project.
- F. Ridership data including groups of people served by the project, employers, geographic area and activity centers.
- G. Self-sufficiency potential for local commitment following project.
- H. Assessment of success or failure of the project.

APPENDICES

Any photographs, maps, brochures, and related supportive documentation would be welcome and desirable.

ATTACHMENT C-4

POLLUTION CALCULATION FORMULA

The method to compute the pollution reduction includes the following steps:

First, calculate the number of fewer cars on the road resulting from this project. The formula to arrive at this figure is to divide the projected ridership (bus, car/vanpool) by the Average Vehicle Occupancy (AVO).*

$$\text{Number of Fewer Cars} = \text{Project Ridership} \div \text{by AVO}$$

Secondly, calculate the number of miles not driven due to the project. This is done by multiplying the number of fewer cars by the average distance of each type of trip (bus, car/vanpool).**

$$\begin{aligned} &\text{Number of miles not driven} = \\ &(\text{No. of fewer cars}) \times (\text{Average trip length} - \text{bus, car/vanpool}) \end{aligned}$$

Thirdly, calculate the reduction in carbon monoxide, nitrogen oxides and hydrocarbons. This is done by multiplying the number of miles not driven by emissions of the pollutant per mile which are:***

Carbon Monoxide (CO):	11 gms/mile
Nitrogen Oxide (NOX):	2.22 gms/mile
Hydrocarbons (NMHC)	3.00 gms/mile

$$\begin{aligned} &\text{Reduction of pollutant} = \\ &(\text{No. of miles not driven}) \times \text{Emissions of pollutant per mile} \end{aligned}$$

The unit of measurement for the above pollution reduction is in grams. To convert grams into pounds, divide the reduction in grams by 453.59; to convert into tons, divide the reduction in pounds by 2000.

NOTES

- * The Average Vehicle Occupancy (AVO) will vary according to locality.
- ** The average distance for each bus trip will vary depending on type of bus, service and locality. The average length of trip for car/vanpool will vary according to locality.
- *** Source: Arizona Department of Environmental Quality

PROJECT WORKSCOPE**Clean Air Program (Pima County)**

The Pima County Department of Environmental Quality operates a county-wide Clean Air Program as per federal mandates. In the past, this public awareness program has promoted the link between motor vehicle usage and air pollution to individual residents through promotional campaigns, contests and educational brochures.

This project will offer a more efficient approach to encouraging non-participants and rewarding those individuals who utilize alternative modes of transportation by sponsoring a month of Clean Air Program activities.

March of 1996 will be promoted as "Spare the Air" month in Pima County. Each of the four weeks will be devoted to one mode of alternate transportation, including:

"Pollution-Free" Commute Week - Walk/Telecommute
"Hop on the Bus" Week
"It's Cool to Carpool" Week
"Pedal Away Pollution" Bike Week

These events will build upon efforts and involve many other agencies, including RideShare, Travel Reduction Program, City of Tucson Department of Transportation, Greater Arizona Bicycling Association and Tucson/Pima County Bicycle Advisory Committee. The majority of these month-long activities will occur in Tucson, Pima County.

The project will encourage alternate mode usage on a regular basis by commuters in the Tucson metropolitan area. By promoting and rewarding users of alternate modes of transportation, SOV usage will decrease and pollution savings will be realized.

This project involves the promotion of a variety of alternative modes of transportation. It takes advantage of existing services and promotions, such as those provided by Rideshare, TRP, Sun Tran and the Clean Air Program, and links them together to enhance public awareness and media interest. The public's retention of motor vehicle usage/air pollution links and the health and financial benefits of alternate modes will be increased due to the month-long approach of the project.

Required products and associated deadlines are identified in the Work Plan included as Attachment D-2.

ATTACHMENT D-2

WORK PLAN AND PROJECT BUDGET

Clean Air Program (Pima County)

March 1, 1996	Start of Program
June 1, 1996	Submittal of progress reports and billing to ADOT Transit Branch Manager. Progress reports will describe "Spare The Air" month activities, number of additional transit riders, number of additional carpoolers, costs per rider and pooler and reduction in pollutants.
September 30, 1996	Submittal to ADOT within 30 days final progress report and billing. The final report will have a format explained in Attachment D-3.

Funding Source by Source Amount

ADOT Air Quality Fund	\$41,031
Pima County Clean Air Program	20,000
Total of above sources	\$61,031

Total Units of Service proposed during this demonstration project	14,500
Total project cost per unit of service:	\$4.07
ADOTs cost per unit of service	\$2.69

ATTACHMENT D-3

-FINAL PROGRESS REPORT FORMAT-

- A. Summary of activities of demonstration project.
- B. Monthly reductions in SOVs (single occupant vehicles) resulting from the project with corresponding reduction in vehicle miles.
- C. Monthly reductions in pollutants (Pollution Calculation Formula attached) resulting from the project.
- D. Projected monthly reductions in SOVs and vehicle miles for one year following project.
- E. Projected monthly reductions in pollutants for one year following the project.
- F. Ridership data including groups of people served by the project, employers, geographic area and activity centers.
- G. Self-sufficiency potential for local commitment following project.
- H. Assessment of success or failure of the project.

APPENDICES

Any photographs, maps, brochures, and related supportive documentation would be welcome and desirable.

POLLUTION CALCULATION FORMULA

The method to compute the pollution reduction includes the following steps:

First, calculate the number of fewer cars on the road resulting from this project. The formula to arrive at this figure is to divide the projected ridership (bus, car/vanpool) by the Average Vehicle Occupancy (AVO).*

$$\text{Number of Fewer Cars} = \text{Project Ridership} \div \text{by AVO}$$

Secondly, calculate the number of miles not driven due to the project. This is done by multiplying the number of fewer cars by the average distance of each type of trip (bus, car/vanpool).**

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NOTES

- * The Average Vehicle Occupancy (AVO) will vary according to locality.
- ** The average distance for each bus trip will vary depending on type of bus, service and locality. The average length of trip for car/vanpool will vary according to locality.
- *** Source: Arizona Department of Environmental Quality

PROJECT WORKSCOPE**Industrial Park Service (City of Tucson)**
(Route 250)

This project is to fund new service to a currently unserved area of Tucson located on the west side of I-10 and terminating at the Northwest Industrial Park. This route is planned to serve an area that has no service. Currently over 1,500 full-time employees work at this location. The costs presented in this project assume that service will begin during the December 1995 schedule change. Route 250 will offer peak hour service scheduled around shift times during the weekday. This route will follow from Sun tran through the City of South Tucson 10th Avenue, to Stone, to Euclid, to Prince, to the Northwest Industrial Park. Several newly developed businesses will be serviced.

The addition of this service would benefit residents living in the southwestern, central and northwest portions of Tucson providing access to a major employment center. The anticipated ridership is equivalent to 13,795 vehicle trips for twelve months.

This project is to provide service to a major employment park via the downtown transit center, establishing a transit service to any employment center and transit connections between other service routes and service areas.

Required products and associated deadlines are identified in the Work Plan included as Attachment E-2.

ATTACHMENT E-2

WORK PLAN AND PROJECT BUDGET

Industrial Park Service (City of Tucson)

October 1, 1995	Start of Program
February 1, 1996	Submittal of progress report and billing to ADOT Transit Manager. Progress reports will describe daily ridership, percent of ridership goal achieved per day, costs per operating mile and reduction in pollutants and vehicular traffic directly related to the operation of this vehicle
June 1, 1996	Progress report/billing
September 30, 1996	Submittal to ADOT within 30 days final progress report and billing. The final report will have a format explained in Attachment E-3.

Funding Sources by Source/Amount

ADOT Air Quality Fund	\$26,572.92
Total:	\$26,572.92

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Total units of service proposed during the demonstration program: 16,002

Total project cost per unit of service: \$1.66 bus trip

ADOTs cost per unit of service: \$1.66 bus trip

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ATTACHMENT E-3

-FINAL PROGRESS REPORT FORMAT-

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NOTES

- * The Average Vehicle Occupancy (AVO) will vary according to locality.
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- *** Source: Arizona Department of Environmental Quality

PROJECT WORK SCOPE

Route 23 Mission Road Extended Services (City of Tucson)
(Extension of a current route to an area that has no service from a major transit center to a newly developed southside community college)

This project is to fund the extension of a current Sun Tran bus route from its current terminus Desert Vista Community Campus to the Roy Laois Transit Center. The extension is planned for an area that has no service from a major transit center to a newly developed southside community college. The costs presented in this proposal assume that service will begin during the December 1995 schedule change. Route 23 will offer half hour service throughout the weekday, and hourly service on weekends.

The addition of this service would benefit residents living in the southwestern portion of Tucson providing access to a major educational college. In addition, it would provide alternate mode travel opportunities to employees of Desert Vista Community Campus, Home Depot and Smitty's.

This project is to provide service to a four-year college campus via a transit center, establishing a strong transit connection between other service routes and service areas.

Given the potentially high ridership it is estimated that only twelve months is needed to develop the necessary market share for the establishment of service. If the service meets December 1996 ridership goal it would be considered cost effective.

The Route 23 as described is likely to attract 58,588 passengers during the twelve month project period.

Required products and associated deadlines are identified in the Work Plan included as Attachment F-2.

ATTACHMENT F-2

WORK PLAN AND PROJECT BUDGET

Route 23 Mission Road Extended Services (City of Tucson)
(Extension of a current route to an area that has no service from a major transit center to a newly developed southside community college)

October 1, 1995

Project start date

February 1, 1996

Submittal of progress report and billing to ADOT Transit Manager. Progress reports will describe daily ridership, percent of ridership goal achieved per day, costs per operating mile and reduction in pollutants and vehicular traffic directly related to the operation of this service.

June 1, 1996

Progress report/billing

September 30, 1996

Submittal to ADOT within 30 days final progress report and billing. The final report will have a format explained in Attachment F-3.

Funding Source by Source Amount

ADOT Air Quality Fund	\$60,393.00
Total	\$60,393.00

Total units of service proposed during this demonstration period: 58,588

Total project cost per unit of service:	\$1.03 bus trip
ADOTs cost per unit of service:	\$1.03 bus trip

ATTACHMENT F-3

-FINAL PROGRESS REPORT FORMAT-

- A. Summary of activities of demonstration project.
- B. Monthly reductions in SOVs (single occupant vehicles) resulting from the project with corresponding reduction in vehicle miles.
- C. Monthly reductions in pollutants (Pollution Calculation Formula attached) resulting from the project.
- D. Projected monthly reductions in SOVs and vehicle miles for one year following project.
- E. Projected monthly reductions in pollutants for one year following the project.
- F. Ridership data including groups of people served by the project, employers, geographic area and activity centers.
- G. Self-sufficiency potential for local commitment following project.
- H. Assessment of success or failure of the project.

APPENDICES

Any photographs, maps, brochures, and related supportive documentation would be welcome and desirable.

ATTACHMENT F-4

POLLUTION CALCULATION FORMULA

The method to compute the pollution reduction includes the following steps:

First, calculate the number of fewer cars on the road resulting from this project. The formula to arrive at this figure is to divide the projected ridership (bus, car/vanpool) by the Average Vehicle Occupancy (AVO).*

$$\text{Number of Fewer Cars} = \text{Project Ridership} \div \text{by AVO}$$

Secondly, calculate the number of miles not driven due to the project. This is done by multiplying the number of fewer cars by the average distance of each type of trip (bus, car/vanpool).**

$$\text{Number of miles not driven} = (\text{No. of fewer cars}) \times (\text{Average trip length} - \text{bus, car/vanpool})$$

Thirdly, calculate the reduction in carbon monoxide, nitrogen oxides and hydrocarbons. This is done by multiplying the number of miles not driven by emissions of the pollutant per mile which are:***

Carbon Monoxide (CO):	11 gms/mile
Nitrogen Oxide (NOX):	2.22 gms/mile
Hydrocarbons (NMHC)	3.00 gms/mile

$$\text{Reduction of pollutant} = (\text{No. of miles not driven}) \times \text{Emissions of pollutant per mile}$$

The unit of measurement for the above pollution reduction is in grams. To convert grams into pounds, divide the reduction in grams by 453.59; to convert into tons, divide the reduction in pounds by 2000.

NOTES

- * The Average Vehicle Occupancy (AVO) will vary according to locality.
- ** The average distance for each bus trip will vary depending on type of bus, service and locality. The average length of trip for car/vanpool will vary according to locality.
- *** Source: Arizona Department of Environmental Quality

Progress _____ : Final _____ : Payment Report

ADOT Form 12-6903 R7/87



STATE OF ARIZONA

OFFICE OF THE ATTORNEY GENERAL

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ATTORNEY GENERAL

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INTERGOVERNMENTAL AGREEMENT
DETERMINATION

A. G. Contract No. KR95-2575-TRN, an agreement between public agencies, has been reviewed pursuant to A.R.S. §11-952, as amended, by the undersigned Assistant Attorney General who has determined that it is in the proper form and is within the powers and authority granted to the State of Arizona.

No opinion is expressed as to the authority of the remaining parties, other than the State or its agencies, to enter into said agreement.

DATED this 5th day of February, 1996.

GRANT WOODS
Attorney General

A handwritten signature in black ink, appearing to read "James R. Redpath", is written over a horizontal line.

JAMES R. REDPATH
Assistant Attorney General
Transportation Section

JRR:lsr
9042G